

Factor Fully		
$2x(x-5)+7(x-5)$	$42x^2-18x$	$x^2-13x+36$
$9a^2b^4-3a^2b^2+18a^4b^6$	$x^2+9x+14$	$4x^2-15x-4$

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Factor Fully		
$2x(x-5)+7(x-5)$ $(x-5)(2x+7)$ $(5,0) (-\frac{7}{2},0)$	$42x^2-18x$ CCF $6x(7x-3)$ $(0,0) (+\frac{3}{7},0)$	$x^2-13x+36$ $(x-4)(x-9)$ $(4,0) (9,0)$
$9a^2b^4-3a^2b^2+18a^4b^6$ $3a^2b^2(3b^2-1+6a^2b^4)$	$x^2+9x+14$ $(x+7)(x+2)$ $(-7,0) (-2,0)$	$4x^2-15x-4$ $(4x+1)(x-4)$ $(-\frac{1}{4},0) (4,0)$

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<p>Boris throws a ball upward from the top of a cliff to the water. The height of the ball above the base of the cliff is modeled by $h = -5t^2 + 15t + 50$, where h is the height in <u>meters</u> and t is the time in seconds.</p> <p>a) How high is the cliff?</p> <p>b) How many seconds does it take for the ball to hit the water?</p> <p>c) What is the maximum height of the ball?</p> <p>d) When does the ball reach its maximum height?</p>

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<p>Boris throws a ball upward from the top of a cliff to the water. The height of the ball above the base of the cliff is modeled by $h = -5t^2 + 15t + 50$, where h is the height in <u>meters</u> and t is the time in seconds.</p> <p>a) How high is the cliff? $t=0$ $h=50$</p> <p>b) How many seconds does it take for the ball to hit the water?</p> <p>c) What is the maximum height of the ball?</p> <p>d) When does the ball reach its maximum height?</p> <p> $h = -5t^2 + 15t + 50$ $h = -5(t^2 - 3t - 10)$ A 17 $h = -5(t^2 - 3t + 2t - 10)$ -3 10 $h = -5(t(t-5) + 2(t-5))$ -5+2 $h = -5(t-5)(t+2)$ $(5,0) (-2,0)$ The ball hits the water at 5 sec $\frac{5t-2}{2}$ $h = -5(\frac{5}{2}-5)(\frac{5}{2}+2)$ $\frac{3}{2}$ or 1.5 $h = -5(\frac{3}{2}-\frac{10}{2})(\frac{3}{2}+\frac{5}{2})$ $h = -5(-\frac{7}{2})(\frac{13}{2})$ $h = \frac{245}{4}$ $h = 61.25$ </p>
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